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CE

Docket No.: V9661.0043  
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:  
Chi-Ming Che

Application No.: 10/725,829

Confirmation No.: 7267

Filed: December 1, 2003

Art Unit: 1638

For: GENETICALLY MODIFIED PLANTS  
EXPRESSING PROTEINASE  
INHIBITORS, SAPIN2A OR SAPIN2B,  
AND METHODS OF USE THEREOF  
FOR THE INHIBITION OF TRYPSIN-  
AND CHYMOTRYPSIN-LIKE  
ACTIVITIES

Examiner: Maria Teresa Samson

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

Timing of Filing of the Information Disclosure Statement:

☐ This IDS is being filed before the First Office Action<sup>1</sup>.

<sup>1</sup> The IDS should, where possible, include a certification under 37 C.F.R. §1.97(e).

- ☒ This IDS is being filed after the issuance of the First Office Action but before the issuance of a Final Office Action<sup>2</sup>.
- ☐ This IDS is being filed after the issuance of a Final Office Action but before the payment of the Final Fee<sup>3</sup>.

**Certifications:**

If checked, the undersigned makes the following statement(s):

- ☐ Statement under 37 CFR § 1.97(e):

Each item of information contained in this information disclosure statement was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this information disclosure statement; or

No item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in this information disclosure statement was known to any individual designated in § 1.56(c) more than three months prior to the filing of the information disclosure statement.

- ☐ Statement Under 37 C.F.R. § 1.704(d):

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<sup>2</sup> The IDS *must* include *either* a certification under 37 C.F.R. §1.97(e) *or* the fee set forth in 37 C.F.R. §1.17(p).

<sup>3</sup> The IDS *must* include *both* a certification under 37 C.F.R. §1.97(e) *and* the fee set forth in 37 C.F.R. §1.17(p).

Each item of information contained in this information disclosure statement was cited in a communication from a foreign patent office in a counterpart application less than thirty days prior to the filing of this information disclosure statement.

**Fee Required by 37 C.F.R. § 1.97(c)(2) or 1.97(d)(2):**

☐ If checked, the fee of \$180.00 set forth in 37 C.F.R. §1.17(p) is attached.

**Copies of Information:**

In accordance with 37 C.F.R. §1.98(a), the following are enclosed:

- ☒ A legible copy<sup>4</sup> of each document (or relevant portion thereof) is cited in the attached PTO/SB/08.
- ☐ With respect to any information which is not in English, a concise explanation of the relevance, as it is presently understood by the individual designated in § 1.56(c) most knowledgeable about the content of the information, is attached. This concise explanation is provided by way of:
- ☐ A translation of the relevant portions of the non-English language information<sup>5</sup>;
  - ☐ A statement explaining the relevant portions of the non-English language information;
  - ☐ A copy [and, where not in the English language, a translation] of at least the relevant portion(s)<sup>6</sup> of the communication from a foreign patent

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<sup>4</sup> A legible copy of the document is not required if (1) the information was previously cited by, or submitted to, the Office and considered by the Office in a prior U.S. application to which this application claims priority, provided that the prior application is properly identified in this IDS, and (2) the IDS submitted in the earlier application complies with 37 C.F.R. § 1.98(a) – (c). This exception does not apply to information cited in an International Application.

<sup>5</sup> 37 C.F.R. §1.98(a)(3)(ii) *requires* that an English language translation be provided when a translation of the document, or portion thereof, “is within the possession, custody or control of, or is readily available to any individual designated in 37 C.F.R. § 1.56(c).”

office in a counterpart foreign application in which the information was cited; or

☐ This information is contained in the specification of the present application.

☐ In accordance with 37 C.F.R. 1.98(d), copies of the cited documents are not enclosed as they were provided in application Serial No. \_\_\_\_\_, filed on \_\_\_\_\_, which the present application relies upon for an earlier effective filing date under 35 U.S.C. 120.

**Materiality:**

Whether or not the information and references disclosed in this Information Disclosure Statement is “material” pursuant to 37 CFR 1.56, this submission is not intended to constitute an admission that any patent, publication or other information referred to therein is “prior art” for this invention unless specifically designated as such.

In accordance with 37 CFR 1.97(g), the filing of this Information Disclosure Statement shall not be construed to mean that a search has been made or that no other material information as defined in 37 CFR 1.56(a) exists.

It is submitted that the Information Disclosure Statement is in compliance with 37 CFR 1.98 and the Examiner is respectfully requested to consider the listed references.

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<sup>6</sup> The relevant portion is that portion which indicates the degree of relevance found by the foreign patent office. This may be an explanation of which portion of the of the reference is particularly relevant, to which claims it applies, or merely an “X”, “Y”, or “A” indication on a search report. MPEP §609 III A(3).

In the event the actual fee is inadvertently not enclosed or if any additional fee during the prosecution of this application is not paid, the Patent Office is authorized to charge the underpayment to Deposit Account No. 50-2215.

Dated: July 6, 2005

Respectfully submitted,

By 

Edward A. Meilman

Registration No.: 24,735

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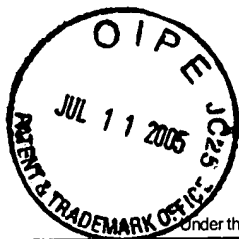
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PTO/SB/08a/b (08-03)

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Substitute for form 1449A/B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>				<b>Complete if Known</b>	
				Application Number	10/725,829-Conf. #7267
				Filing Date	December 1, 2003
				First Named Inventor	Chi-Ming Che
				Art Unit	1638
				Examiner Name	Maria Teresa Samson
Sheet	1	of	3	Attorney Docket Number	V9661.0043

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. <sup>1</sup>	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code <sup>2</sup> (if known)			
	AA	US-PP10,742	12-29-1998	Rodolfo Valdoz Bautista	
	AB	US-5,650,148	07-22-1997	Gage et al.	
	AC	US-5,850,015	12-15-1998	Bauer et al.	
	AD	US-PP10,682	11-10-1998	Renate Plate	
	AE	US-5,869,720	02-09-1999	Maliyakal E. John	
	AF	US-PP10,704	11-24-1998	Robert Edward Lee	
	AG	US-5,889,189	03-30-1999	Raymond L. Rodriguez	
	AH	US-5,824,842	10-20-1998	MacKay et al.	
	AI	US-4,376,110	03-08-1983	David et al.	
	AJ	US-4,946,778	08-07-1990	Ladner et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. <sup>1</sup>	Foreign Patent Document		Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known)				

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. <sup>1</sup> Applicant's unique citation designation number (optional). <sup>2</sup> See Kinds Codes of USPTO Patent Documents at [www.uspto.gov](http://www.uspto.gov) or MPEP 901.04. <sup>3</sup> Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). <sup>4</sup> For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. <sup>5</sup> Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. <sup>6</sup> Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials*	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		
	CA	Abstract of Nielsen et al., Int. J. Neural System, Vol. 8, Nos. 5-6, pgs. 581-599 (1997)		
	CB	Alfred Nisonoff, The Journal of Immunology, Vol. 147, pgs. 2429-2438 (1991)		
	CC	Huang et al., Planta, Vol. 191, pgs. 256-264 (1993)		
	CD	Hendriks et al., Plant Molecular Biology, Vol. 17, pgs. 385-394 (1991)		
	CE	Gordon-Kamm et al., The Plant Cell, Vol. 2, pgs. 603-618 (1990)		
	CF	Gatehouse et al., Molecular Breeding, Vol. 3, pgs. 49-63 (1997)		
	CG	Abstract of Grimsley et al., Nature, Vol. 325, pgs. 177-179 (1987)		
	CH	Abstract of C. Gatz, Methods Cell Biol., Vol. 50, pgs. 411-424 (1995)		
	CI	Guerrero et al., Plant Molecular Biology, Vol. 36, pgs. 565-571 (1998)		
	CJ	Jean T. Greenberg, Proc. Natl. Acad. Sci. USA, Vol. 93, pgs. 12094-12097 (1996)		
	CK	Ito et al., The Plant Cell, Vol. 14, pgs. 3201-3211 (2002)		
	CL	Wu et al., Plant Molecular Biology, Vol. 44, pgs. 267-281 (2000)		
	CM	Morrison et al., Proc. Natl. Acad. Sci. USA, Vol. 81, pgs. 6852-6855 (1984)		
	CN	Ross et al., The Plant Journal, Vol. 21, No. 6, pgs. 547-552 (2000)		
	CO	Margossian et al., Proc. Natl. Acad. Sci. USA, Vol. 85, pgs. 8012-8016 (1988)		
	CP	Neuberger et al., Nature, Vol. 312, pgs. 604-608 (1984)		
	CQ	McNellis et al., The Plant Journal, Vol. 14, No. 2, pgs. 247-257 (1998)		
	CR	Klopfenstein et al., Biomass and Bioenergy, Vol. 12, pgs. 299-311 (1997)		
Examiner Signature				Date Considered

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Substitute for form 1449A/B/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b>  <i>(Use as many sheets as necessary)</i>			<b>Complete if Known</b>		
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			First Named Inventor	Chi-Ming Che	
			Art Unit	1638	
			Examiner Name	Maria Teresa Samson	
Sheet	2	of	3	Attorney Docket Number	V9661.0043

	CS	Abstract of Takamatsu et al., EMBO Journal, Vol. 6, No. 2, pgs. 307-311 (1987)	
	CT	Abstract of Shimamoto et al., Nature, Vol. 338, pgs. 274-276 (1989)	
	CU	Takeda et al., Nature, Vol. 314, pgs. 452-454 (1985)	
	CV	Tamayo et al., Planta, Vol. 211, pgs. 62-71 (2000)	
	CW	Abstract of Seymour et al., Plant Mol. Biol., Vol. 23, No. 1, pgs. 1-9 (1993)	
	CX	Stevens et al., Plant Physiology, Vol. 124, pgs. 173-182 (2000)	
	CY	Kolffpara et al., J. Agric. Food Chem., Vol. 40, No. 12, pgs. 2358-2363 (1992)	
	CZ	Abstract of Myers et al., Comput Appl. Biosci, Vol. 4, No. 1., pgs. 11-17 (1988)	
	CA1	Lee et al., Molecular Breeding, Vol. 5, pgs. 1-9 (1999)	
	CB1	Weinmann et al., The Plant Journal, Vol. 5, No. 4, pgs. 559-569 (1994)	
	CC1	Odell et al., Nature, Vol. 313, pgs. 810-812 (1985)	
	CD1	Kush et al., Proc. Natl. Acad. Sci., USA, Vol. 87, pgs. 1787-1790 (1990)	
	CE1	Outchkourov et al., Plant Physiology, Vol. 133, pgs. 379-390 (2003)	
	CF1	Kollipara et al., J. Agric. Food Chem., Vol. 40, pgs. 2356-2363 (1992)	
	CG1	U.K. Laemmli, Nature, Vol. 227, pgs. 680-685 (1970)	
	CH1	Abstract of Lund et al., Plant Mol. Biol., Vol. 18, No. 1, pgs. 47-53 (1992)	
	CI1	Abstract of Ward et al., Nature, Vol. 341, pgs. 544-546 (1989)	
	CJ1	Clarence A. Ryan., BioEssays, Vol. 10, pgs. 20-24 (1989)	
	CK1	Lorberth et al., The Plant Journal, Vol. 2, No. 4, pgs. 477-486 (1992)	
	CL1	Morrison et al., Proc. Natl. Acad. Sci., USA, Vol. 81, pgs. 6851-6855 (1984)	
	CM1	Rosahl et al., Mol. Gen. Genet., Vol. 202, pgs. 368-373 (1986)	
	CN1	Reddy et al., Molecular Breeding, Vol. 9, pgs. 259-269 (2002)	
	CO1	Passelegue et al., Plant Science, Vol. 113, pgs. 79-89 (1996)	
	CP1	Pearce et al., Plant Physiol., Vol. 102, pgs. 639-644 (1993)	
	CQ1	Valdes et al., Biochemical and Biophysical Research Communications, Vol. 308, pgs. 94-100 (2003)	
	CR1	Salinas et al., The Plant Cell, Vol. 4, pgs. 1485-1493 (1992)	
	CS1	Shilo et al., Proc. Nat'l Acad. Sci. USA, Vol. 78, pgs. 6789-6792 (1981)	
	CT1	Klein et al., Proceedings of the National Academy of Sciences of the United States of America, Vol. 85, pgs. 4305-4309 (1988)	
	CU1	Svab et al., Proc. Natl. Acad. Sc. USA, Vol. 90, pgs. 913-917 (1993)	
	CV1	Abstract of Potrykus et al., Mol. Gen. Genet., Vol. 199, pgs. 169-177 (1985)	
	CW1	Pena-Cortes et al., The Plant Cell, Vol. 3, pgs. 963-972 (1991)	
	CX1	Jones et al., Plant Molecular Biology, Vol. 28, pgs. 505-512 (1995)	
	CY1	Chen et al., Plant Molecular Biology, Vol. 35, pgs. 821-831 (1997)	
	CZ1	Chye et al., The Plant Journal, Vol. 18, pgs. 205-214 (1999)	
	CA2	Abstract of Coruzzi et al., EMBO J., Vol. 3, pgs. 1671-1679 (1984)	
	CB2	Cordero et al., The Plant Journal, Vol. 6, pgs. 141-150 (1994)	
	CC2	Nielsen et al., Protein Engineering, Vol. 12, pgs. 3-9 (1999)	
	CD2	Beers et al., Plant Molecular Biology, Vol. 44, pgs. 399-415 (2000)	
	CE2	Abstract of Jefferson et al., EMBO J., Vol. 6, No. 13, pgs. 3901-3907 (1987)	
	CF2	Janknecht et al., Proc. Natl. Acad. Sci. USA, Vol. 88, pgs. 8972-8976 (1991)	
	CG2	Abstract of Florack et al., Plant Mol. Biol., Vol. 24, pgs. 83-96 (1994)	
	CH2	Abstract of Curtis et al., Journal of Experimental Botany, Vol. 45, pgs. 1441-1449 (1994)	
	CI2	Abstract of Franck et al., Cell, Vol. 21, pgs. 285-294 (1980)	
	CJ2	Abstract of Caddick et al., Nat. Biotechnol., Vol. 16, pgs. 177-180 (1998)	
	CK2	Johnson et al., Proc. Natl. Acad. Sci. USA, Vol. 86, pgs. 9871-9875 (1989)	
	CL2	Abstract of Huang et al., Planta et al., Vol. 194, pgs. 200-214 (1994)	
	CM2	Felton et al., "Antinutritive plant defence mechanisms", Biology of the Insect Midgut, published	

Examiner Signature		Date Considered	
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		by Chapman & Hall, London, U.K. (1996)	
	CN2	Walker-Simmons et al., Plant Physiol., Vol. 60, pgs. 61-63 (1977)	
	CO2	Karlin et al., Proc. Natl. Acad. Sci. USA, Vol. 87, pgs. 2264-2268 (1990)	
	CP2	Daniell et al., TRENDS in Plant Science, Vol. 7, pgs. 84-91 (2002)	
	CQ2	Daniell et al., TRENDS in Plant Science, Vol. 6, pgs. 219-226 (2001)	
	CR2	Duan et al., Nature Biotechnology, Vol. 14, pgs. 494-498 (1996)	
	CS2	Abstract of Dellaporta et al., Plant Molecular Biology Reporter, Vol. 1, pgs. 19-21 (1983)	
	CT2	Dominguez et al., The Plant Journal, Vol. 15, pgs. 569-574 (1998)	
	CU2	Fromm et al., Proc. Natl. Acad. Sci. USA, pgs. 5824-5828 (1985)	
	CV2	Brzin et al., Biotechnology and Genetic Engineering Reviews, Vol. 13, pgs. 420-467 (1995)	
	CW2	Bryant et al., Biochemistry, Vol. 15, pgs. 3418-3423 (1976)	
	CX2	Brandstadter et al., Mol. Gen. Genet., Vol. 252, pgs. 146-154 (1996)	
	CY2	Pfizer et al., Nucleic Acids Research, Vol. 15, pgs. 4449-4465 (1987)	
	CZ2	Karlin et al., Proc. Natl. Acad. Sci. USA, Vol. 90, pgs. 5873-5877 (1993)	
	CA3	Hensel et al., The Plant Cell, Vol. 5, pgs. 553-564 (1993)	
	CB3	Greenspan et al., The FASEB Journal, Vol. 7, pgs. 437-444 (1993)	
	CC3	Michael Bevan, Nucleic Acids Research, Vol. 12, pgs. 8711-8721 (1984)	
	CD3	Boothe et al., Drug Development Research, Vol. 42, pgs. 172-181 (1997)	
	CE3	Altschul et al., Nucleic Acids Research, Vol. 25, pgs. 3389-3402 (1997)	
	CF3	Atkinson et al., The Plant Cell, Vol. 5, pgs. 203-213 (1993)	
	CG3	Huston et al., Proc. Natl. Acad. Sci. USA, Vol. 85, pgs. 5879-5883 (1988)	
	CH3	Brisson et al., Nature, Vol. 310, pgs. 511-513 (1984)	
	CI3	Abstract of Broglie et al., Science, Vol. 224, pgs. 838-843 (1984)	
	CJ3	Hooykaas-Van Slogteren et al., Nature, Vol. 311, pgs. 763-764 (1984)	
	CK3	Abstract of Altschul et al., Journal of Molecular Biology, Vol. 215, pgs. 403-410 (1990)	
	CL3	Abstract of Applebaum et al., Journal of Insect Physiology, Vol. 2, pgs. 665-669 (1966)	
	CM3	Abstract of Bevan et al., Annu Rev Genet., Vol. 16, pgs. 357-384 (1982)	
	CN3	Abstract of Birk et al., Biochim Biophys Acta., Vol. 67, pgs. 326-328 (1963)	
	CO3	Marion M. Bradford, Analytical Biochemistry, Vol. 72, pgs. 248-254 (1976)	
	CP3	Hilder et al., "Transgenic Plants Conferring Insect Tolerance: Protease Inhibitor Approach", published by Department of Biological Sciences, University of Durham, Durham DH1 3LI, United Kingdom, pgs. 317-337	
	CQ3	Gustafson et al., The Journal of Biological Chemistry, Vol. 251, pgs. 7004-7010 (1976)	
	CR3	Copy of article at <a href="http://genome-www.stanford.edu/Arabidopsis/cshl-course/5-in_situ.htm">http://genome-www.stanford.edu/Arabidopsis/cshl-course/5-in_situ.htm</a>	
	CS3	Computer Corner, "PSORT: a program for detecting sorting signals in proteins and predicting their subcellular localization", TIBS 24, pgs. 34-35 (1999)	
	CT3	Hilder et al., "Transgenic plants conferring insect tolerance: proteinase inhibitor approach", editors: Transgenic Plants. 1. Engineering and Utilization, San Diego: Academic Press, USA, pgs. 317-338 (1993)	
	CU3	Reeck et al., "Proteinase inhibitors and resistance of transgenic plants to insects", editors: Advances in Insect Control: The Role of Transgenic Plants, Taylor and Francis, London, United Kingdom, pgs. 157-183 (1997)	
	CV3	Angharad M.R. Gatehouse, "Biotechnological applications of plant genes in the production of insect resistant crops", editors: In Global Plant Genetic Resources for Insect Resistant Crops, SL Clement, SS Quisenberry, London, United Kingdom, pgs. 263-280 (1998)	
	CW3	Cox et al., "Analysis of plant gene expression", editors: Plant molecular biology: a practical approach, Oxford: IRL Press, United Kingdom, pgs. 1-34 (1988)	

\*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

<sup>1</sup>Applicant's unique citation designation number (optional). <sup>2</sup>Applicant is to place a check mark here if English language Translation is attached.

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